

REMARKS

Claims 1-14 are pending in this application. Claims 6, 7, 13 and 14 have been amended. No new matter has been added. Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 6, 7, 13 and 14 are objected to because of informalities.

Claims 6, 7, 13 and 14 have been amended to replace “the core is magnetic material” with “the core is made of magnetic material” and “the back-iron portions are magnetic material” with “the back-iron portions are made of magnetic material”. Accordingly, Applicants respectfully submit that the objections have been overcome.

Claims 1-4, 6-11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants’ admitted prior art (hereinafter “AAPA”), in view of Takeuchi et al., USP 5,583,387 (hereinafter “Takeuchi”) .

Applicants respectfully traverse the rejections made by the Examiner for the reasons discussed below.

Independent Claim 1 is directed to a stator for a motor. The stator includes a core, a plurality of insulators, a plurality of windings, and a plurality of back-iron portions. The core has a hollow portion and a plurality of tooth portions protruding from the hollow portion in a radial manner. The insulators correspond to the tooth portions, and are disposed around the corresponding tooth portion respectively. The windings correspond to the insulators, and are disposed around the corresponding insulator respectively. The back-iron portions surround the core and contact the insulators along a direction opposite to the protruding direction of the tooth portions.

AAPA teaches a stator for a motor. In AAPA, the stator 20 includes a core 21 with plural teeth 211, a back-iron portion 22, and a plurality of winding portions 23. Since the back-iron portion 22 is assembled to the core 21 along an axial direction of the core 21, it is easy to damage the insulators 232 of the winding portions 23. As a result, when the rotor rotates, it is easily burned out, reducing the reliability of the rotor.

Takeuchi discloses a stator of dynamo-electric machine. The stator includes a plurality of core pieces 11. That is, the tooth portion and the back-iron portion are integrally formed. Thus, each of the tooth portions is independent. As a result, when a rotor of the motor rotates, there will be a corresponding increase in the cogging torque of the motor. Consequently, whenever the power output of the motor is increased, vibrations and noise will occur, thus compromising the controllability and life of the motor. In addition, since the tooth portion and the back-iron portion are integrally formed, there is no teaching about the back-iron portions surrounding the core along a direction opposite to the protruding direction of the tooth portions.

Neither AAPA nor Takeuchi teaches or suggests the back-iron portions surrounding the core along a direction opposite to the protruding direction of the tooth portions. That is, the combination of AAPA with Takeuchi does not teach the back-iron portions surrounding the core and contacting the insulators along a direction opposite to the protruding direction of the tooth portions, as recited in Claim 1. Similarly, the combination of AAPA with Takeuchi does not teach the back-iron portions surrounding the core and contacting the tooth portions along a direction opposite to the protruding direction of the tooth portions, as recited in Independent Claim 8.

Accordingly, Applicants submit that the combination of AAPA with Takeuchi does not suggest or teach each and every limitation in Claims 1 and 8, and hence a prima facie case of obviousness has not been established. Hence, Applicants also submit that Claims 1 and 8 are allowable, and further, that insofar as Claims 2-4 and 6-7 depend from Claim 1, they are also

allowable for at least the reasons set forth above. Similarly, insofar as Claims 9-11, 13 and 14 depend from Claim 8, Applicants submit that Claims 9-11, 13 and 14 are also allowable, for at least the reasons set forth above.

Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Takeuchi and further in view of Smith (USP 2,711,008).

Since Claims 5 and 12 depend from Claims 1 and 8, respectively, they are also distinguishable over AAPA and Takeuchi for at least the reasons stated above. Additionally, Smith is merely cited for the acknowledged deficiency in AAPA and Takeuchi regarding a restricting portion surrounding the back-iron portions, and does not compensate for the above-discussed deficiencies in AAPA and Takeuchi regarding at least the back-iron portions surrounding the core along a direction opposite to the protruding direction of the tooth portions.

For the reasons set forth above, Applicants submit that Claims 1 and 8 are allowable, and further, that insofar as Claim 5 depends from Claim 1, Claim 5 is also allowable, for at least the reasons set forth above. Similarly, insofar as Claim 12 depends from Claim 8, Applicants submit that Claim 12 is also allowable, for at least the reasons set forth above.

In view of the amendments to the claims and the remarks set forth above distinguishing the claimed invention from the cited prior art references, Applicants submit that the Examiner's objections and rejections have been overcome. It is therefore respectfully requested that the Examiner withdraw the objections and rejections and allow the present claims.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

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In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees which may be due with respect to this paper, may be charged to Deposit Account No. 50-2394.

Respectfully submitted,

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Enclosure: Copy of Marked-Up Amended Claims



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PATENT TRADEMARK OFFICE

Copy of marked-up amended claims

IN THE CLAIMS

Please amend Claims 6, 7, 13, and 14 as follows:

Claim 6. (Amended) The stator as claimed in claim 1, wherein the core is made of magnetic material.

Claim 7. (Amended) The stator as claimed in claim 1, wherein the back-iron portions are made of magnetic material.

Claim 13. (Amended) The stator as claimed in claim 8, wherein the core is made of magnetic material.

Claim 14. (Amended) The stator as claimed in claim 8, wherein the back-iron portions are made of magnetic material.